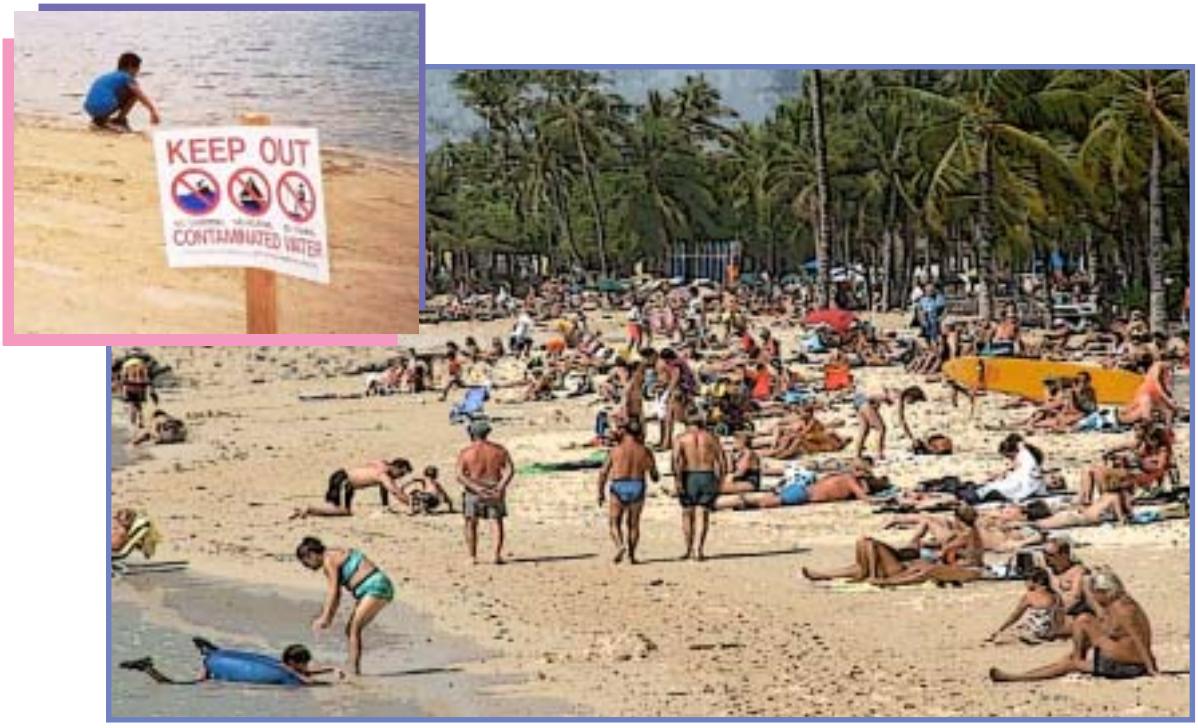
Indicators of Environmental Quality



State of Hawai`i, Department of Health
Environmental Health Administration

January 2005

www.hawaii.gov/health/environmental

Document Notes

Environmental Indicator: a tool that uses the best available data to measure the quality of the environment and/or progress made in protecting the environment.

This report includes a selection of nineteen environmental indicators, each occupying a single page. Each indicator shows a data set, a chart based on those data, and a discussion of the indicator and the data upon which it is based. Only data collected by, through or about the Hawaii State Department of Health programs are included.

The discussion accompanying each indicator is separated into five sections:

Explanation: the first section explains the data and chart, focusing on the fundamental picture portrayed the chart. Terms and caveats are also discussed in this section.

Implications: An "implications" section follows, with a short and sometimes subjective discussion of what impact the indicator findings may have on public health and the environment, and therefore on the Department of Health's (DOH) environmental programs.

Data Quality: The third section provides a one-word assessment of date quality for the indicator. Data quality is ranked as either High (± 5-10% confidence), Medium (± 10-25% confidence) or Low (± 25-50% confidence).

The last two discussion sections note the source of the data and comment on whether the data are required of DOH by the U.S. Environmental Protection Agency (EPA). In most cases, when a percentage scale is used in a chart, the scale ranges from 0 to 100 percent. To more clearly show trends, some chart scales extend from values of 50% or 75% to 100%.

Data used are organized on a federal fiscal year (FFY) calendar, October through September, unless otherwise noted, and usually cover the years 1999-2003 in order to show a five-year trend for each indicator. Some indicators do not have data available for that period, and some provide only a "snap shot" of information for a single year.

CAB	-Clean Air Branch
CWB	-Clean Water Branch
DOH	-Department of Health
EHA	-Environmental Health Administration
EPA	-U. S. Environmental Protection Agency
EPO	-Environmental Planning Office
NRIAQ	-Noise, Radiation & Indoor Air Quality Branch
SDWB	-Safe Drinking Water Branch
SHWB	-Solid & Hazardous Waste Branch
SLD	-State Laboratories Division
VCB	-Vector Control Branch
WWB	-Wastewater Branch

DOH contact information is listed on page 22

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This report was prepared by the Department of Health, Environmental Planning Office
919 Ala Moana Blvd. Room 312 Honolulu, Hawaii 96814 January 2005

Ambient Levels of Sulfur Dioxide Compared to National Standards

Explanation: The national standard for sulfur dioxide (SO_2) concentrations was set by EPA at 80 micrograms/cubic meter (µg/m³) as the annual average limit of SO_2 in ambient air. The Honolulu air monitoring station is located atop the DOH building downtown. Data from this station are shown here as representative of SO_2 concentrations in Hawai'i. The results show that the annual average over the past five years, 1-3 µg/m³, has been well below the standard.

Implications: Hawai'i's annual average SO_2 concentrations are very low compared to the national standard. On persistent Kona wind days, volcanic emissions from the island of Hawai'i can be transported to O'ahu and are experienced mostly as sulfates (SO_4). These sulfates are included in the PM_{10} (particulate) category expressed on the next page.

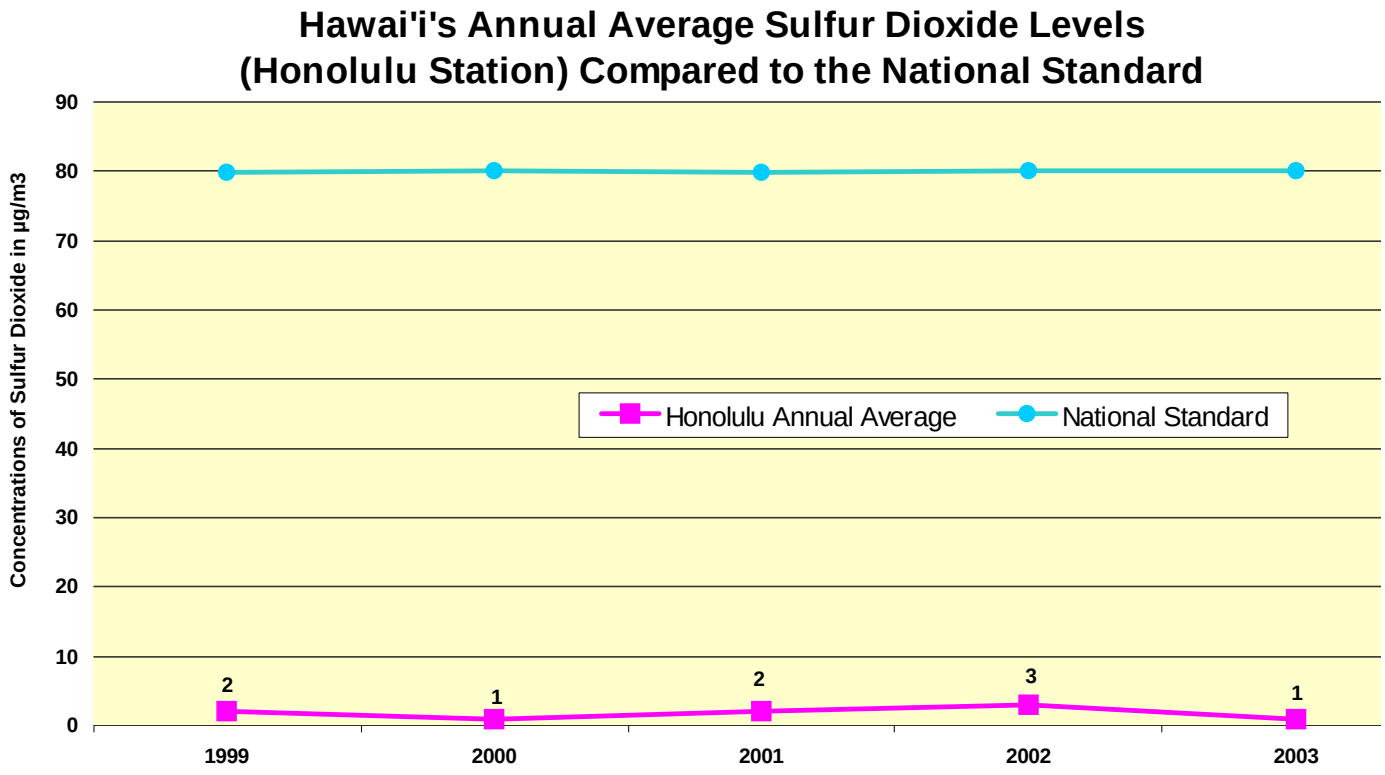
Data Quality: High (± 5-10%confidence).

Source: DOH Clean Air Branch.

Data are required by the EPA.

Sulfur Dioxide Data

FFY	Honolulu Annual Average of SO_2	National Standard for SO_2
1999	2	80
2000	1	80
2001	2	80
2002	3	80
2003	1	80



Ambient Levels of Air-borne Particulates Compared to National Standards

Explanation: The EPA has set the annual average of the particulate matter, or PM_{10}, at 50 micrograms/cubic meter (µg/m³). PM_{10} is defined as particulates with an aerodynamic diameter less than or equal to 10 microns. At the Honolulu monitoring station, located in the heart of downtown, the annual average concentration of particulates varied from 14 to 16 µg/m³. At 16 µg/m³ this annual average is 72% below EPA's standard.

Implications: The concentrations measured in Honolulu are far below the national standard. The visual trend line shows that, within the past 5 years, the particulate levels have stayed on a fairly even line between 14-16 µg/m³. Concentrations of PM_{10} are not significantly affected by sulfates from volcanic emissions carried over O'ahu by Kona winds.

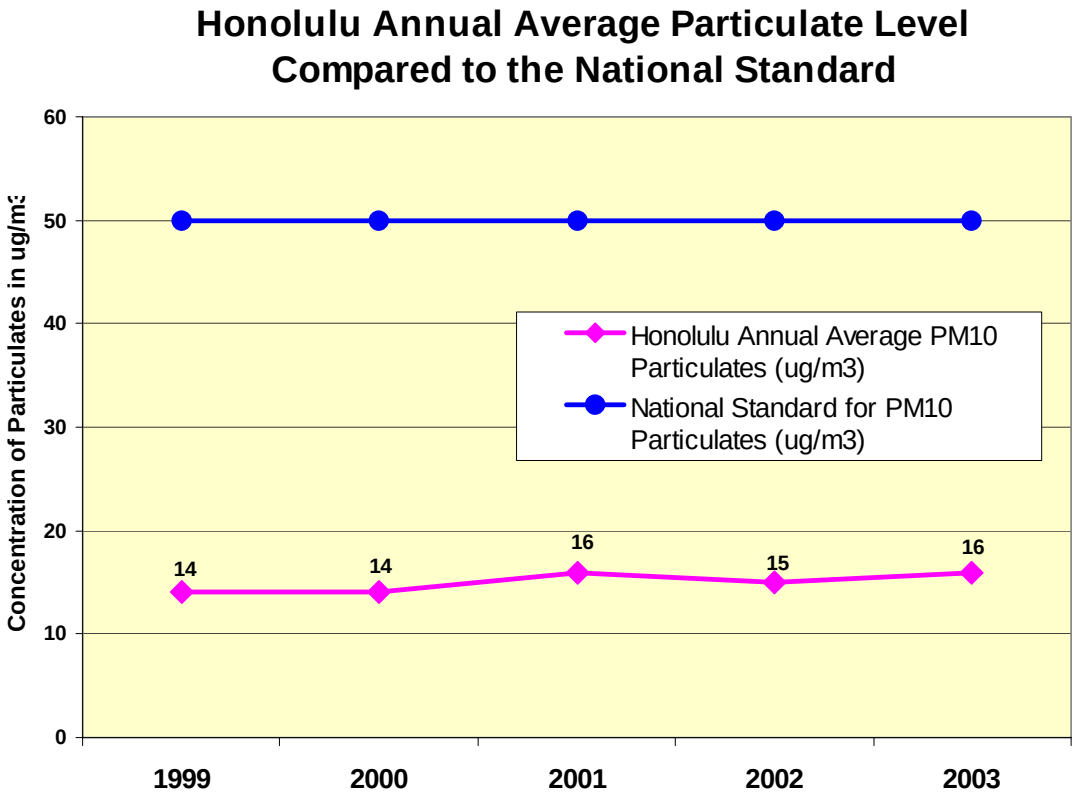
Data Quality: High (± 5-10%confidence).

Source: DOH Clean Air Branch

Data are required by the EPA.

Air-borne Particulates Data

FFY	Honolulu Annual Average of PM_{10}	National Standard for PM_{10}
1999	14	50
2000	14	50
2001	16	50
2002	15	50
2003	16	50



Ambient Levels of Carbon Monoxide Compared to National Standards

Explanation: EPA set the 1-hour average limit for carbon monoxide (CO) concentrations in ambient air at 40,000 micrograms per cubic meter (µg/m^3). This indicator reflects CO data measured at the Honolulu monitoring station located in the heart of downtown, an area with heavy automobile traffic. The CO measurement differs from the other indicators in this report as it reflects the highest 1-hour value each year rather than an annual average. In addition to the 1-hour national standard, EPA has set an 8-hour standard for CO at 10,000 µg/m^3.

Implications: Although there are some fluctuations in the annual averages, Hawai`i's recorded 8-hour values are consistently well below the national standard.

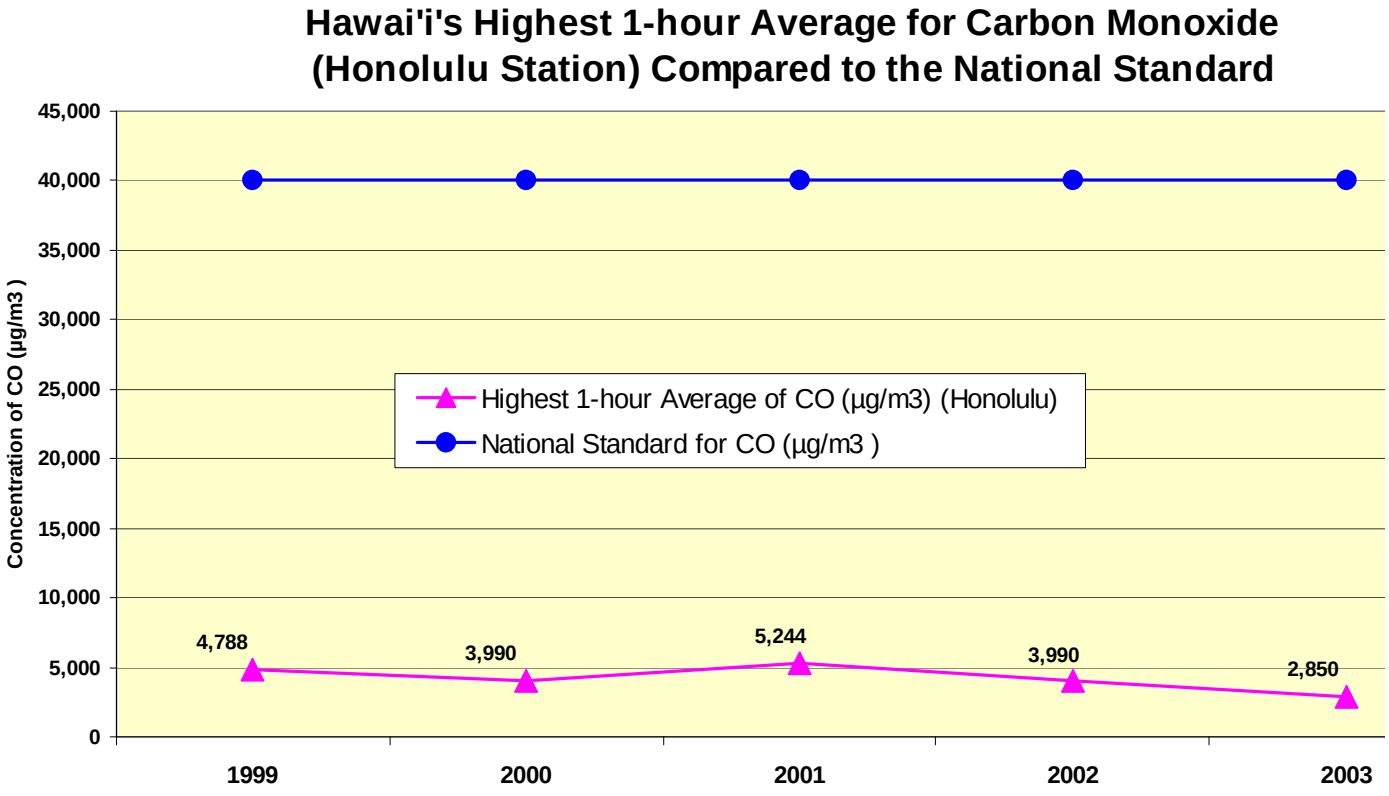
Data Quality: High (± 5-10%confidence).

Source: DOH Clean Air Branch

Data are required by the EPA.

Carbon Monoxide Data

FFY	Highest 1-hour Average of CO (Honolulu)	National Standard for CO
1999	4,788	40,000
2000	3,990	40,000
2001	5,244	40,000
2002	3,990	40,000
2003	2,850	40,000



Percentage of Schools in Compliance with Asbestos Management Plan Regulations

Explanation: Buildings constructed before 1980 may contain asbestos in pipe insulation, structural fireproofing, mechanical areas, and wall plaster. If asbestos-containing building materials (ACBMs) are not properly identified and managed they may be unintentionally disturbed, causing the release of asbestos fibers. ACBMs still exist in Hawai'i's schools. EPA regulations and Hawaii Administrative Rules require each school to prepare an Asbestos Management Plan, which documents the presence and condition of ACBMs and specifies provisions for properly managing any ACBM present. Plans are required to contain inspection and re-inspection reports; periodic surveillance reports; response action information; notices sent to parents and employees; designated person information and custodian training documents. Since the program's inception in 1988, over 400 schools have been contacted by NRIAQB staff and informed of this requirement. For the purposes of this measurement, compliance is assumed unless an inspection proves otherwise. The number of schools required to comply will change as new schools open and existing schools are closed.

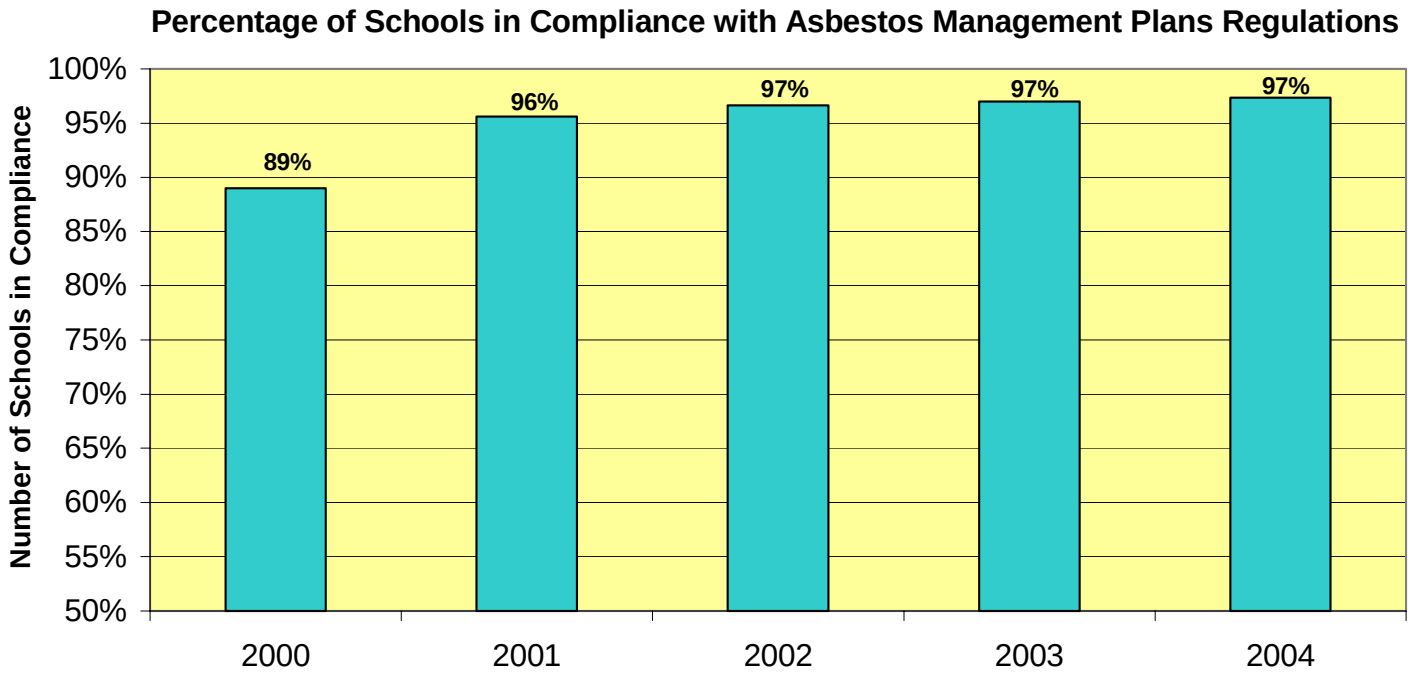
Implications: The chart shows an increase in compliance since 2000, likely the result of increased inspections along with greater follow-up activities. Nine out of ten schools have an asbestos management plan, but there is not necessarily a direct correlation between the existence of a plan and its implementation. However, in the past two years compliance improved, reflecting both an increase in the implementation of the plans in schools with ACBMs and additional compliance assistance activities provided by the program. The total number of schools required to comply increased due to the addition of Private and Charter Schools to the system across the state.

Data Quality: Medium (±10-25% confidence).

Source: Tom Lileikis (NRIAQB)

Data are required by the EPA.

FFY	Total Number of Schools Required to Comply	Number of Schools in Compliance	Percentage of Schools in Compliance
2000	412	368	89%
2001	409	391	96%
2002	416	402	97%
2003	416	404	97%
2004	417	405	97%



Contaminated Site with Clean-up Completed

Explanation: Progress made in the clean-up of contaminated sites, broken down into three categories, is measured by the date of completion of the clean-up process. The vast bulk of the clean-ups are comprised of leaking underground storage tank (LUST) sites. The next three indicators on the following pages will provide more specific data relating to the progress of each site category.

Implications: Staff has brought a backlog of LUST release cases into compliance with Hawai‘i’s UST rules.

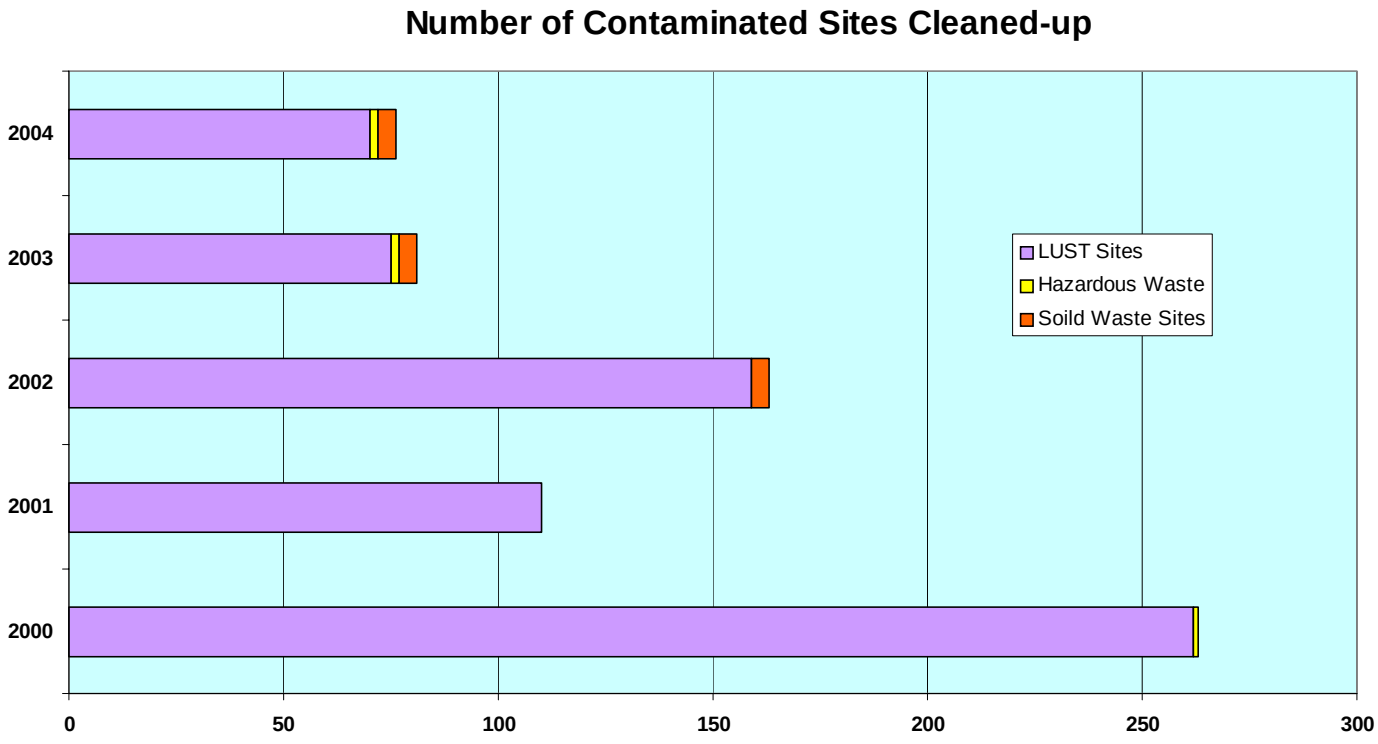
Data Quality: High (± 5-10%confidence).

Sources: Grace Simmons (SHWB), Lane Otsu (SHWB), and Roxanne Kwan (SHWB).

Data are required by the EPA.

Contaminated Sites Clean-up Data

FFY	Hazardous Waste	Soild Waste Sites	LUST Sites	Total Sites
2000	1	0	262	263
2001	0	0	110	110
2002	0	4	159	163
2003	2	4	75	81
2004	2	4	70	76



Cumulative Percentage of Leaking Underground Storage Tank Sites with Clean-up Partially Addressed or Completed

Explanation: Of the 1,803 confirmed releases from underground storage tanks from 1987 to 2004, 80% have had 'clean-up' completed. Fourteen percent of the sites have had 'clean up' partially addressed, (i.e., efforts have begun which: manage contaminated soil, remove free product, manage dissolved petroleum, and/or monitor the groundwater or soil), and 6% have yet to be addressed.

Implications: Some of the data for this indicator are included with data listed on the previous page; the data on this page pertains only to LUST sites and includes releases that have received no clean-up activity or that have only had clean-up partially addressed. Clean-ups for this category of contaminated sites has increased. Of the 6% of the sites that have not been addressed, some are recent releases for which the DOH has yet to receive information on clean-up efforts. None of the unaddressed sites constitutes an emergency situation.

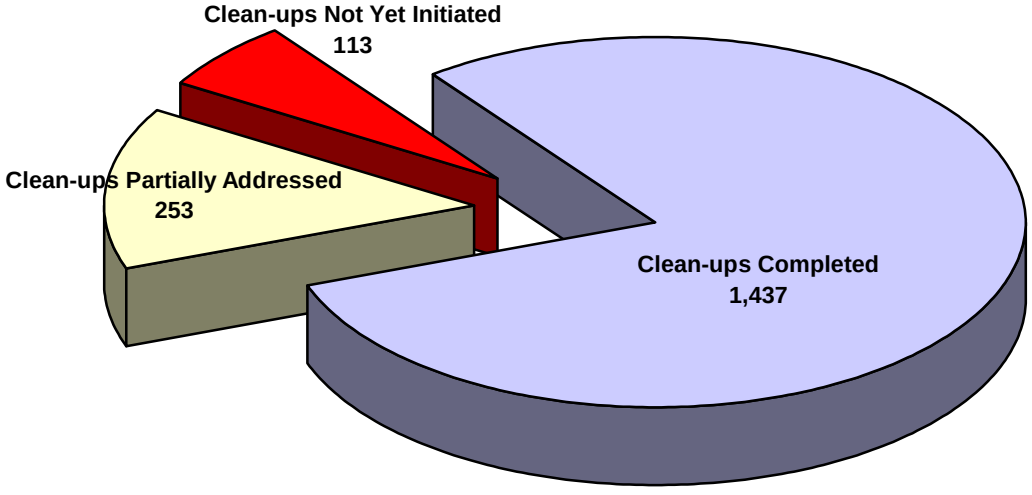
Data quality: High (± 5-10%confidence).

Source: Roxanne Kwan (SHWB).

Data are required by the EPA.

LUST Site Clean-up Data						
Total Tanks	Active Tanks	Closed Tanks	Confirmed Releases	Clean-ups Partially Addressed	Clean-ups Not Initiated	Clean-ups Completed
7,775	2,076	5,699	1,803	253	113	1,437

Status of Leaking Underground Storage Tank Sites Cleaned Up as of FY 2004



Quantity of Hazardous Waste Generated in Hawai‘i

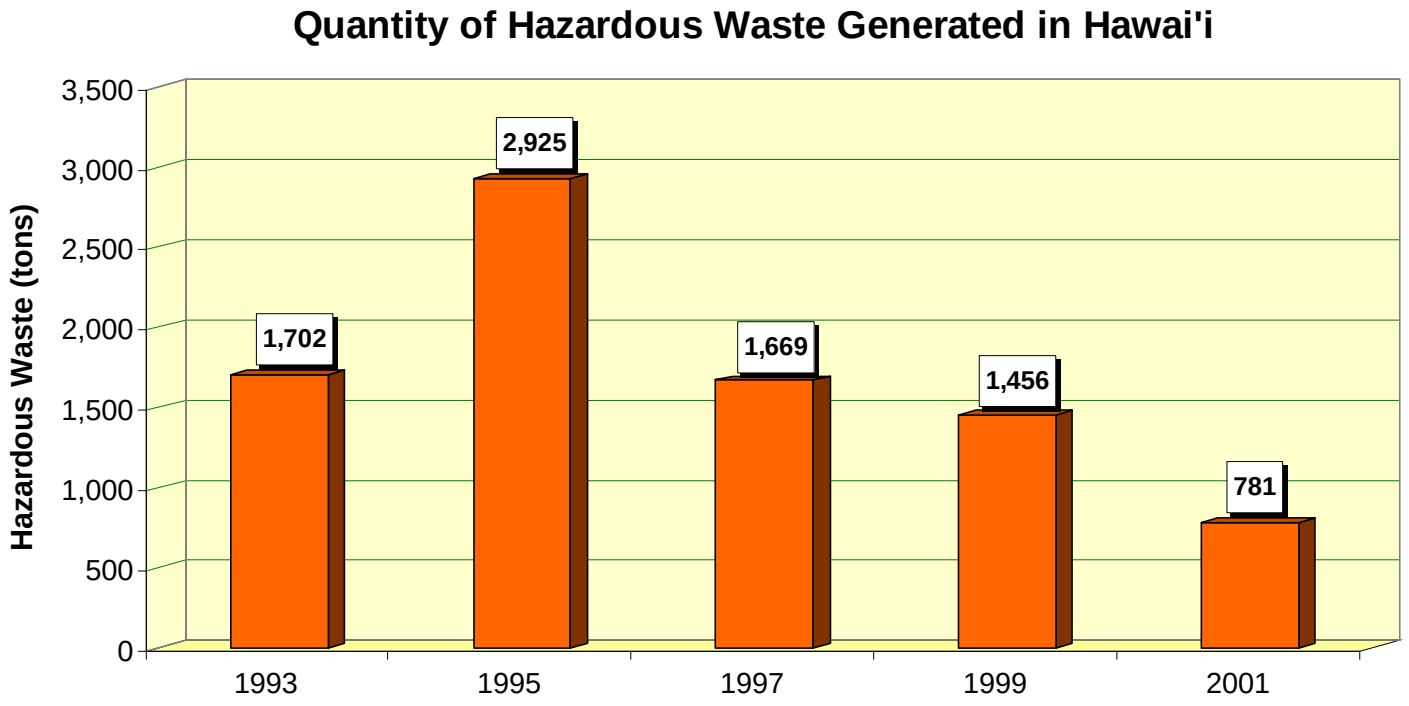
Explanation: Hazardous waste generation, as presented in this indicator, is reported to EPA by “large quantity generators” biennially in odd years. The EPA is reviewing the 2003 data for quality assurance, so it will not be available until sometime in 2005. “Small quantity generators” were included only in the 1995 data and, as a result, waste generation appears to peak in 1995. Overall, the quantity of waste generated, as shown in this indicator, has ranged from roughly 780 to 3,000 tons annually during the period from 1993 to 2001. Hazardous wastes in wastewater have been excluded from the indicator because the data quality for wastewater volumes is particularly questionable, especially since volume was removed as an EPA reporting requirement in 1997*. The majority of hazardous wastes in Hawai`i are sent to permitted commercial treatment storage disposal facilities on the mainland, while the recyclable solvents are processed in state. Hazardous waste is defined in 40 CFR 261.3 as waste having any of the four hazardous characteristics: ignitability, corrosivity, reactivity, or toxicity, or a waste specially listed as a substance to be regulated as a hazardous waste. Common examples include paint, battery acid, oil, lead, and waste bleaches.

Implications: Compared to other states, hazardous waste generation has been relatively low in Hawai‘i. During the ten-year period represented by this indicator, hazardous waste generation appears to be decreasing after a slight increase between 1993 and 1997. The significant decrease in waste generation for 2001 is linked to the efforts of the waste minimization coordinator and a stronger inspection and enforcement presence.

* However, the amount on the EPA website for 2001 does include 464,076 tons of wastewater generated by Tesoro Refinery. In previous reports, Tesoro’s wastewater generation was not included.

Data Quality: Low (± 25-50%) confidence.
Source: Grace Simmons (SHWB).
Data are required by the EPA.

FFY	Hazardous Waste Generated in Tons
1993	1,702
1995	2,925
1997	1,669
1999	1,456
2001	781



Percentage of Solid Waste Recycled in Hawai‘i

Explanation: The percentage of solid waste diverted from landfills for recycling in Hawai‘i is slowly increasing. Beginning with FY 2003, the DOH has begun utilizing county derived diversion data in calculating diversion statistics. The amount of solid waste produced each year has risen in the past few years. The upward trend is most likely related to the increasing strength of the State’s economy.

For the purposes of this indicator, tires and batteries are included in the ‘other’ category in the graph below. Amounts diverted do not include waste sent to H-Power for incineration and power generation.

Implications: Hawai‘i’s legislated goal was 50% solid waste recycling by the year 2000. We continue to fall short in accomplishing that goal. Hawai‘i does not have a large local market for material, so most recycled goods must be shipped out for processing. These shipping costs make it difficult for Hawai‘i recycling businesses to compete, especially in a period when the market price for raw recycled materials is low.

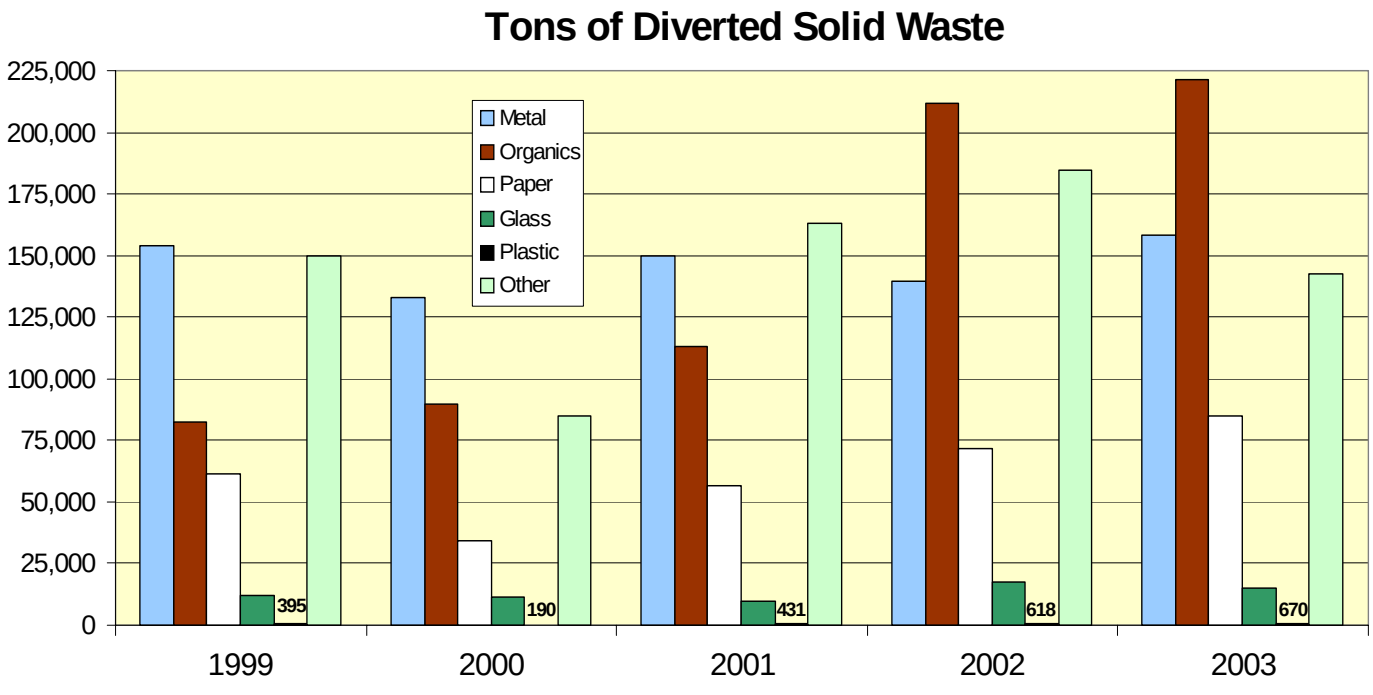
Data Quality: 2003: Medium (± 10-20%) confidence; 2000-2002: Low (± 25-50%) confidence; 1999: Medium (± 10-25%) confidence.

Source: Lane Otsu (SHWB)

Data are not required by the EPA.

Total Solid Waste Recycling Data (in tons)

State FY	Produced Statewide	Disposed Statewide	Diverted Statewide	Percentage Diverted
1999	1,884,477	1,424,005	460,472	24.4%
2000	1,794,496	1,441,000	353,496	19.7%
2001	1,971,336	1,478,668	492,668	25.0%
2002	2,115,313	1,489,974	625,339	29.6%
2003	2,140,648	1,517,915	622,733	29.1%



Number of Zoonotic Laboratory Tests for Early Detection or Confirmation of Zoonotic Diseases

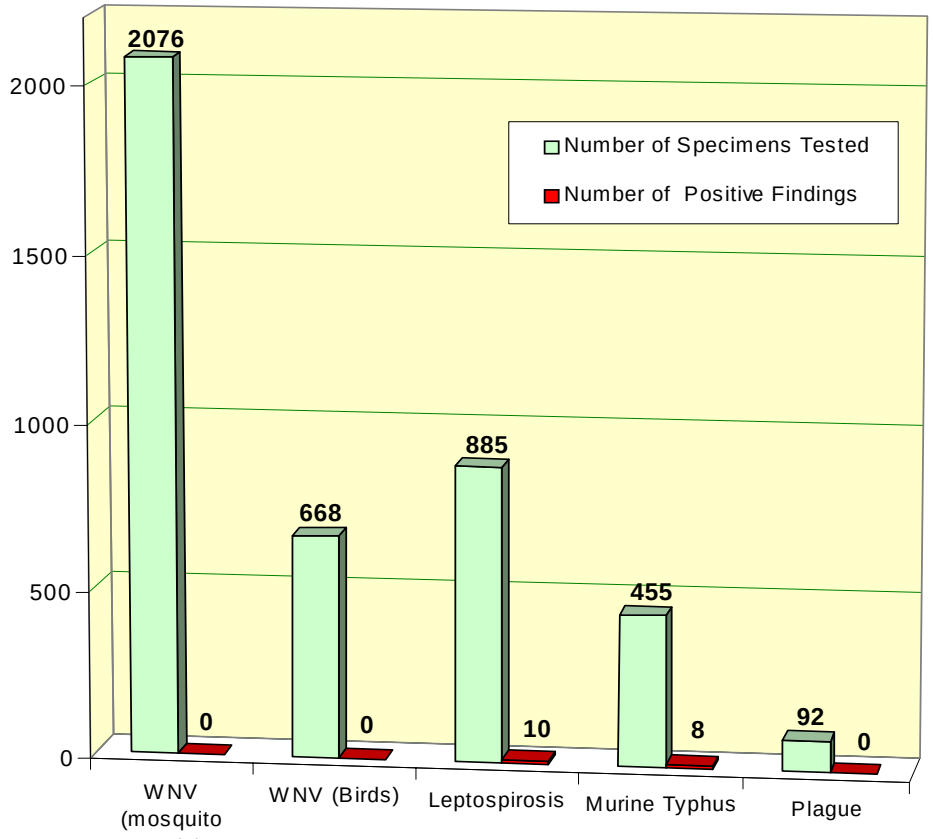
Explanation: The main focus for 2004 was preventing West Nile Virus (WNV) from reaching Hawaii. The Vector Control Branch and State Laboratories were at the center of the effort. Mosquitoes were trapped, counted and sorted by VCB Laboratory, then tested at State Laboratories Division for WNV. Birds were necropsied at VCB, then tested at SLD. In addition to WNV, Vector Control was also testing for plague, murine typhus and leptospirosis.

Implications: Though West Nile Virus did not reach Hawaii in 2004, the prevention efforts will continue to be sustained. WNV was the most high-profile disease, however surveillance and testing must also be continued for other zoonotic diseases that cause threats to public health.

Disease Tested	Total Tests (#Positive)	O`ahu	Hawai`i	Maui	Kaua`i
West Nile - mosquito pools*	2076 (0)	1640 (0)	182 (0)	216 (0)	38(0)
West Nile - birds	668 (0)	415 (0)	138 (0)	94 (0)	21 (0)
Leptospirosis	885 (10)	158 (5)	489 (5)	0 (0)	238 (0)
Murine Typhus**	455 (8)	200 (5)	198 (0)	22 (1)	35 (2)
Plague***	92 (0)	8 (0)	80 (0)	4 (0)	0 (0)

* A group of 15-50 insects pooled together for testing purposes. The total number of mosquitoes tested for WNV was 84,268.
** Rat and mouse sera tested by the immunofluorescent analysis (IFA) technique
*** Only animals retrieved from ports of entry tested for plague

Zoonosis Laboratory Activities & Findings Jan-Dec 2004



Data Quality: Medium (± 10-25%) confidence.

Source: Wes Warashina (VCB Laboratory)

Data are not required by the EPA.

Oil and Chemical Releases in Hawai‘i

Explanation: Any releases of oil or chemicals must be reported to DOH. No clear trend exists in the number of oil and chemical releases from 1999 to 2003. The database currently contains only initial information regarding a release. Follow-up information on releases (including volumes of releases) is not included.

Implications: Hazard Evaluation and Emergency Response (HEER) office crews respond to roughly 400-500 ‘spills’ each year. Most are minor, a few are major, and some are false alarms. An increase in the number of releases does not necessarily correlate with an increase in damage to the environment. Future tracking and reporting will include volumes of spills in addition to numbers of spills.

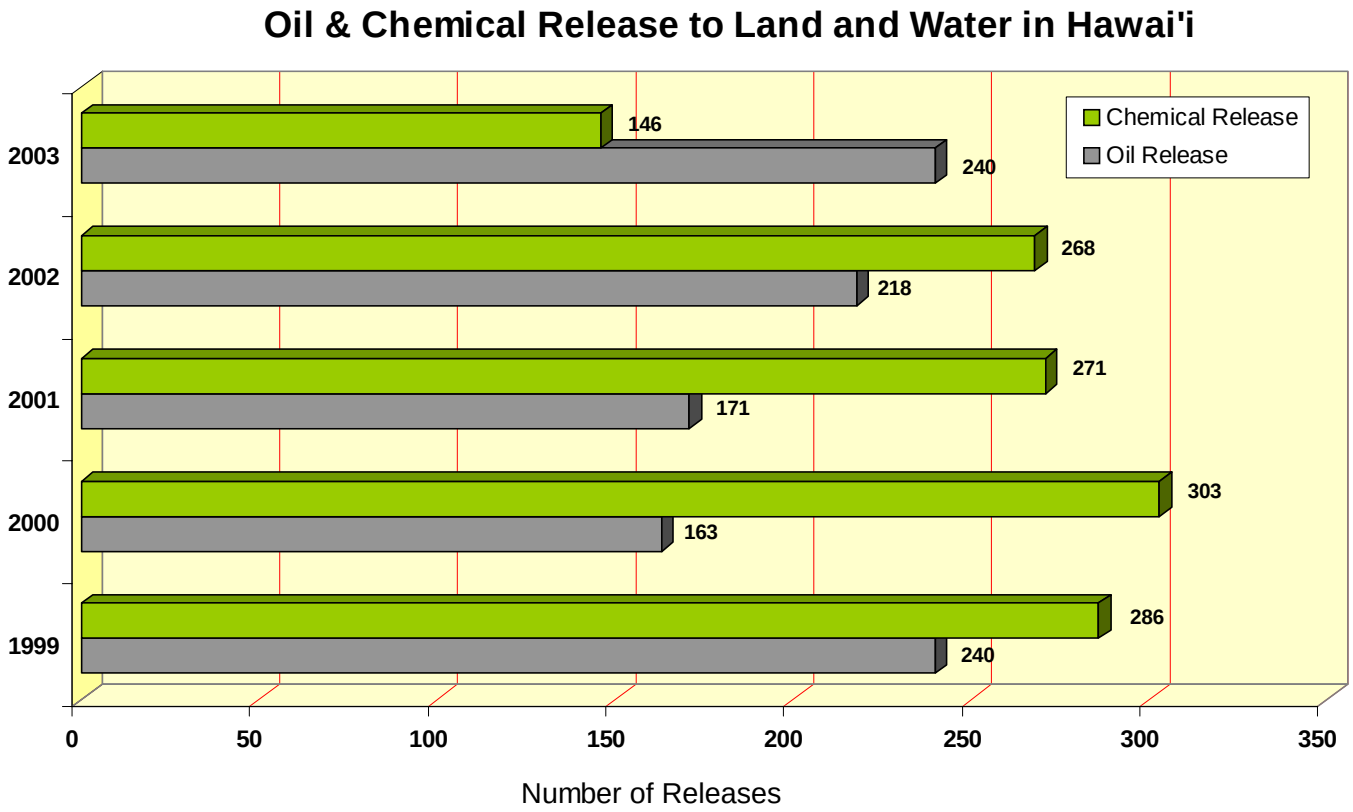
Data Quality: Medium (± 10-25%) confidence.

Source: Marsha Graf (HEER).

Data are not required by the EPA.

Oil & Chemical Release Data

FFY	Oil Releases	Chemical Releases
1999	240	286
2000	163	303
2001	171	271
2002	218	268
2003	240	146



Percentage of Hawai‘i’s Population Served Drinking Water in Compliance with State and Federal Microbiological and Chemical Maximum Contaminant Levels

Explanation: Drinking water microbiological or chemical standards are called Maximum Contaminant Levels (MCLs). Water that exceeds MCLs is believed to be harmful to human health. In 2004, 99.5% of Hawaii’s residents and visitors were served drinking water that met the MCLs. Population figures are derived by summing the populations each public water system reports.

There were a small number of persons (6927) in five water systems who were served water not in compliance with MCLs. This equals a non-compliance rate of 0.52% over Hawai`i’s population of 1,341,572 people.

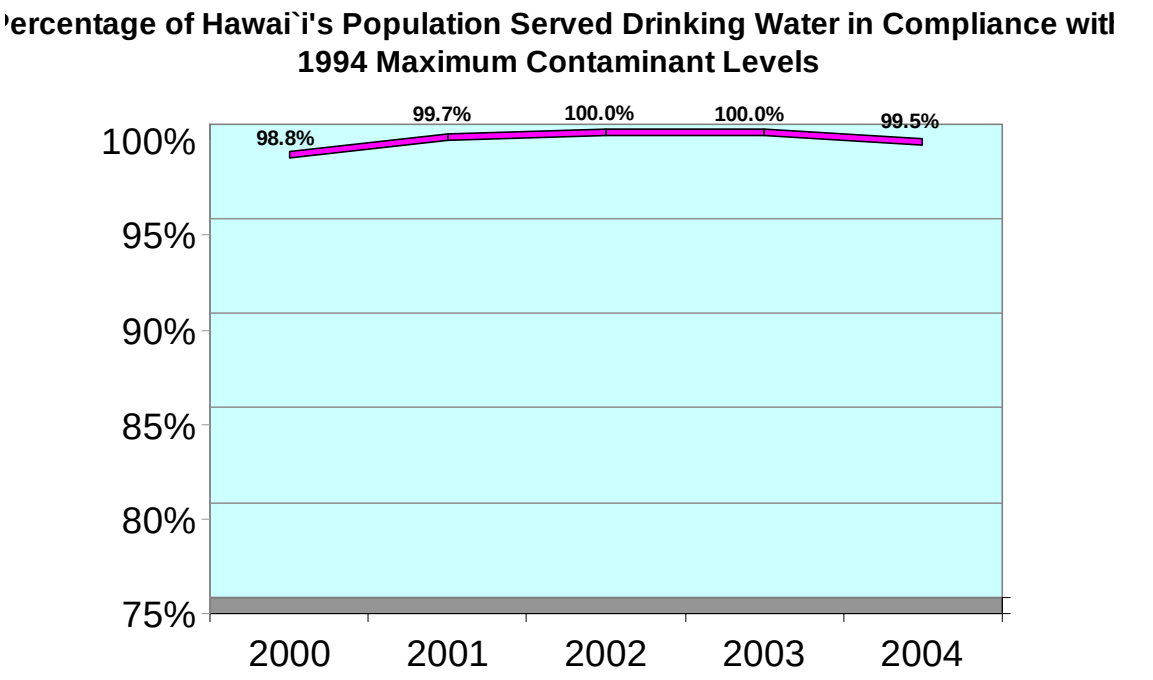
Implications: The compliance rate has consistently exceeded 98.7% over the last five years, and has remained at or above 99.5% in the last four years. Whenever a violation is found, the public is notified through electronic media, hand-delivered notices, or published notices.

Data Quality:
High (± 5-10% confidence).

Source: Ann Zane (SDWB)

Data are required by the EPA

FFY	Total Population Served Drinking Water	Population Served Water Below MCLs	Percentage Population Served Water in Compliance with MCLs
2000	1,291,907	1,277,016	98.8%
2001	1,289,360	1,285,821	99.7%
2002	1,300,251	1,300,251	100.0%
2003	1,300,715	1,300,682	100.0%
2004	1,341,572	1,334,645	99.5%



Cumulative Number of Sanitary Surveys Conducted for Drinking Water Systems in Hawai‘i, 2002-2006

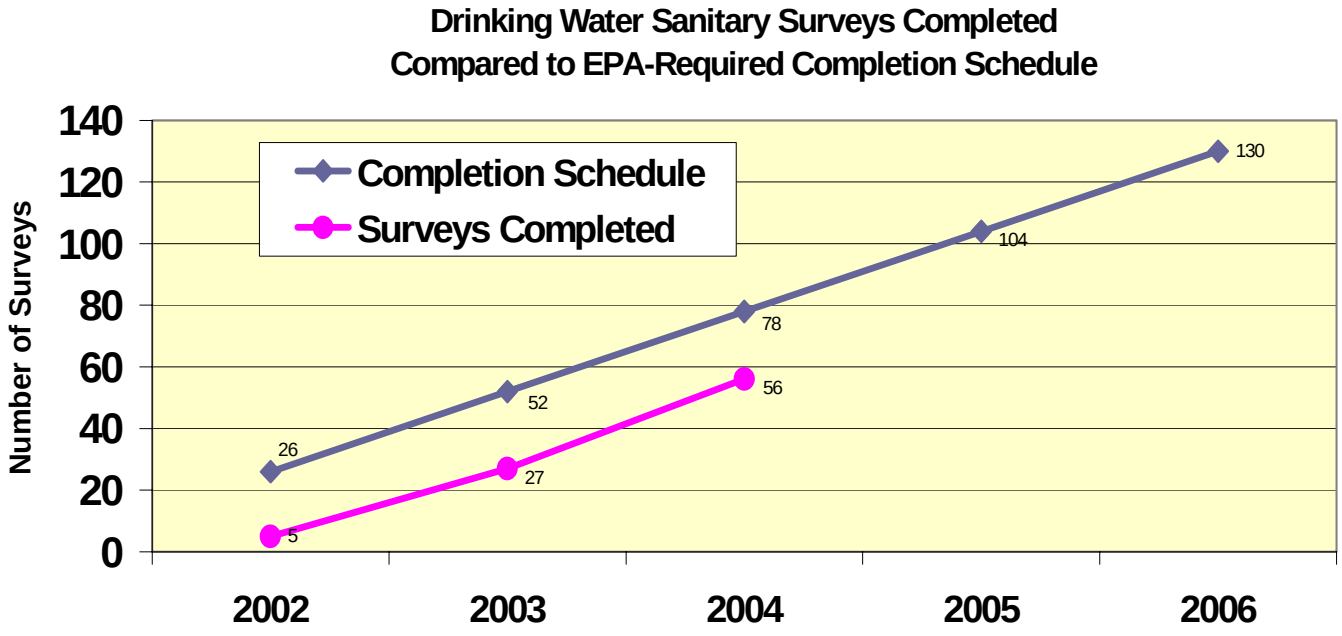
Explanation: A sanitary survey consists of a periodic review of the water source, facilities, equipment, operation and maintenance practices and records to verify that a public water system is operating properly. The DOH goal is to conduct "Sanitary Surveys" of all public water system source, treatment, and distribution operations in a five-year period. For Hawai`i, that averages 26 surveys per year. The SDWB completed the first five years by meeting its requirements, and is now beginning the next five-year cycle from 2002-2006. Because of personnel shortages, implementing new rules and regulations, and dealing with issues regarding national security of drinking water systems, meeting these survey goals will continue to be a challenge.

Implications: The last round of surveys was held from 1997 to 2001, so it is timely for DOH to inspect these water systems again. Within 30 days of each survey, the SDWB submits a sanitary survey report to the purveyor discussing any deficiencies and recommendations. The SDWB also requests a response from the purveyor within 30 days of receiving the report. When problems are found during surveys, the risk of water contamination is assessed. If the problem poses an imminent risk of contamination to the source or finished water, the SDWB will direct the purveyor to promptly correct the problem.

Data Quality: High (± 5-10%confidence).

Source: William Wong (SDWB).

FFY	Total Number of Systems to Survey (Average of 26/Year)	Surveys Completed Annually (= Cumulative total from 2002)
2002	26	5
2003	52	22 (27)
2004	78	29 (56)
2005	104	
2006	130	



Percentage of Underground Injection Wells in Compliance with State and Federal Regulations

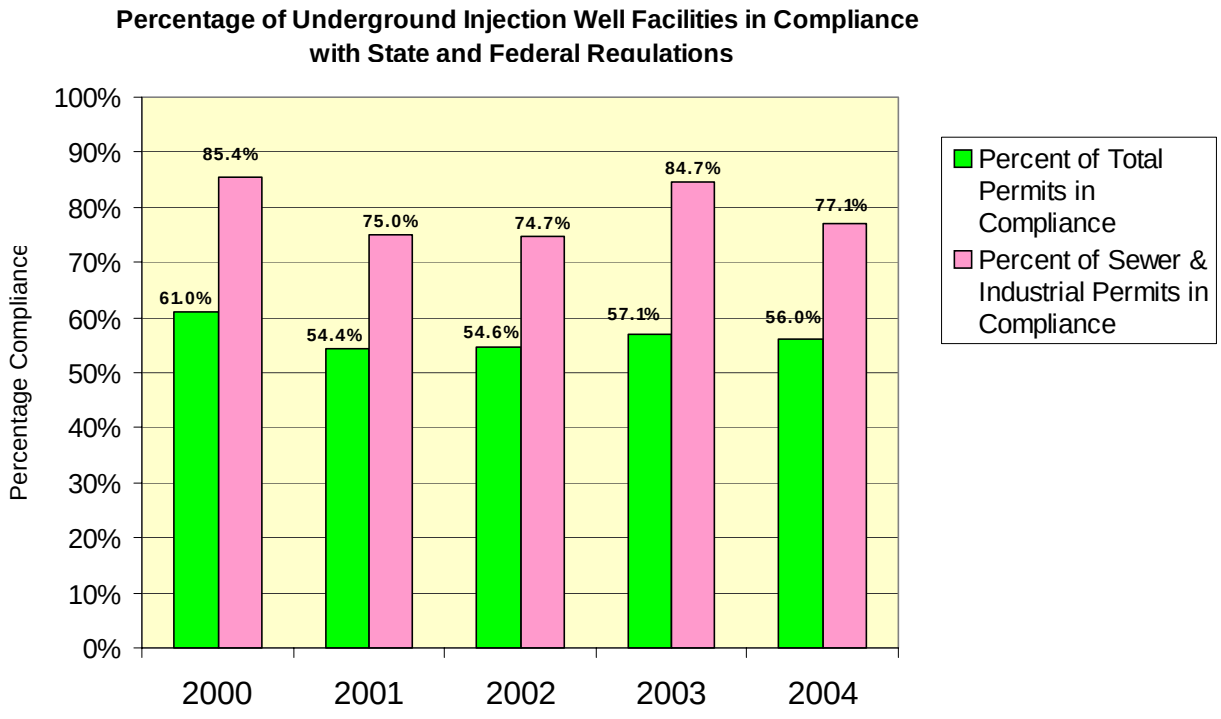
Explanation: The percentage of underground injection well facilities in compliance with state and federal regulations (those with a current permit) for the calendar year 2004 has dropped about 1.1% to approximately 56% since the year 2003. Most noncompliant injection well facilities were those for drainage injection wells – wells used for rainfall runoff disposal. The compliance percentage for drainage injection well facilities was approximately 47%. Injection well facilities for sewage disposal and industrial-related wastewater disposal had a compliance percentage of approximately 77%. Permit renewals for sewage and industrial-related injection have priority over permit renewals for drainage injection.

Implications: Drainage injection wells pose a lower potential for environmental contamination as compared to industrial or sewage related facilities. However, for counting purposes, all facilities are weighed equally.

Data Quality: High (± 5-10% confidence).
Data are required by the EPA.

Source: Chauncey Hew (SDWB)

FFY	Total UIC Permits	Total Expired Permits	Percent of Total Permits in Compliance	Percent of Sewer & Industrial Permits in Compliance
2000	574	224	61.0%	85.4%
2001	590	268	54.4%	75.0%
2002	617	280	54.6%	74.7%
2003	659	283	57.1%	84.7%
2004	677	298	56.0%	77.1%



Beach Closure/Warning Days Annually Due to Sewage or Water Pollution

Explanation: Residents and visitors use our public beaches and the ocean for recreation and fishing. Sewage and chemical spills can restrict our enjoyment and use of the shoreline as well as affect aquatic life. The following table shows the number of times beaches were posted with warning or closure signs (unsafe due to water pollution) by the DOH, military, private and/or City & County of Honolulu.

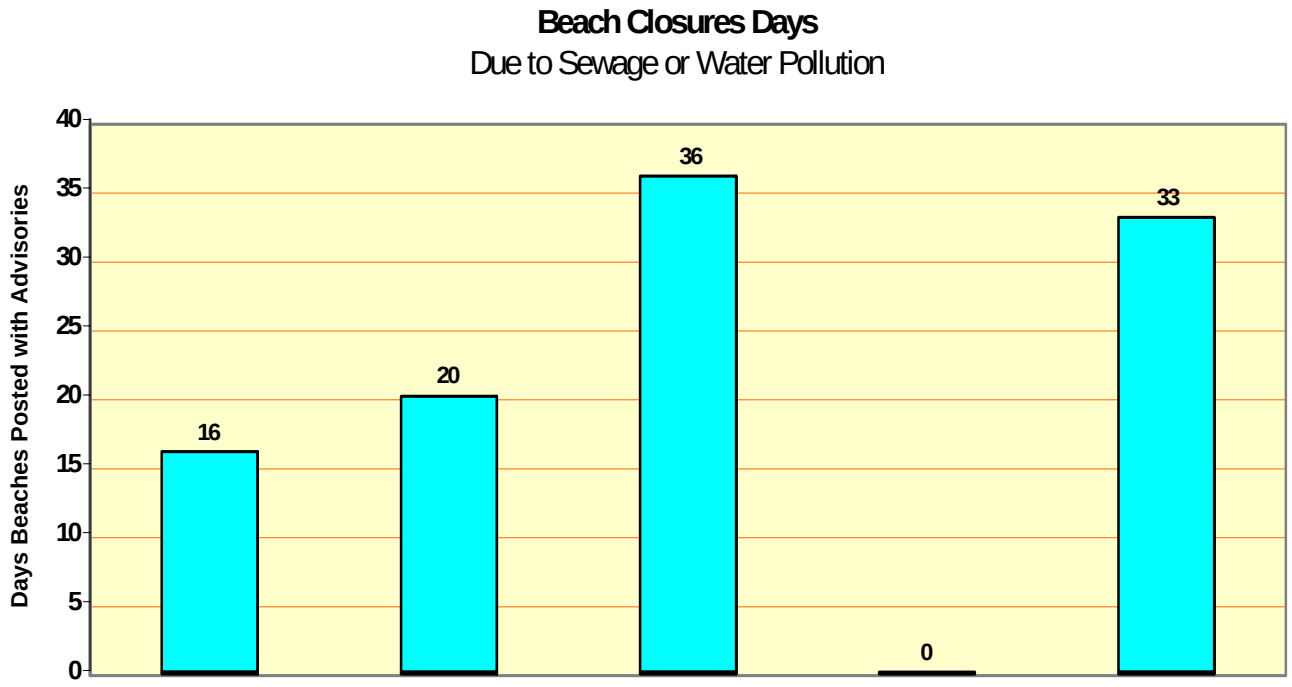
Implications: There were 33 days of beach postings in 2004. The rise in numbers was a possible result of a heavy rainy season. There were 6 sewage spills during 2004 when DOH determined postings were needed. For a sewage spill, the CWB reviews bacteria data prior to having the signs removed.

Data Quality: Medium (± 10-25%) confidence.

Source: Ann Teruya (CWB)
Data are not required by the EPA, but are reported in DOH's biennial 305(b) report.

Calendar Year	Days beaches closed per year
2000	16
2001	20
2002	36
2003	0
2004	33

Notes:
i) These numbers do not reflect posting of warning signs on streams, lakes, and harbors
ii) Other agencies may also post warning signs on beaches. For example, the City and County of Honolulu also posts warning signs on beaches after opening stream mouths to drain water.



Percentage of Wastewater Recycled Annually

Explanation: Wastewater recycling (or reuse of water treated to a level appropriate for irrigation purposes) has risen from roughly 19.5 million gallons per day in 1999 to nearly 23.5 million gallons per day in 2003, representing an increase of nearly 4% over the past five-year period. The slight drop from the previous year was due to a usage decline at the Schofield plant because of troop deployment.

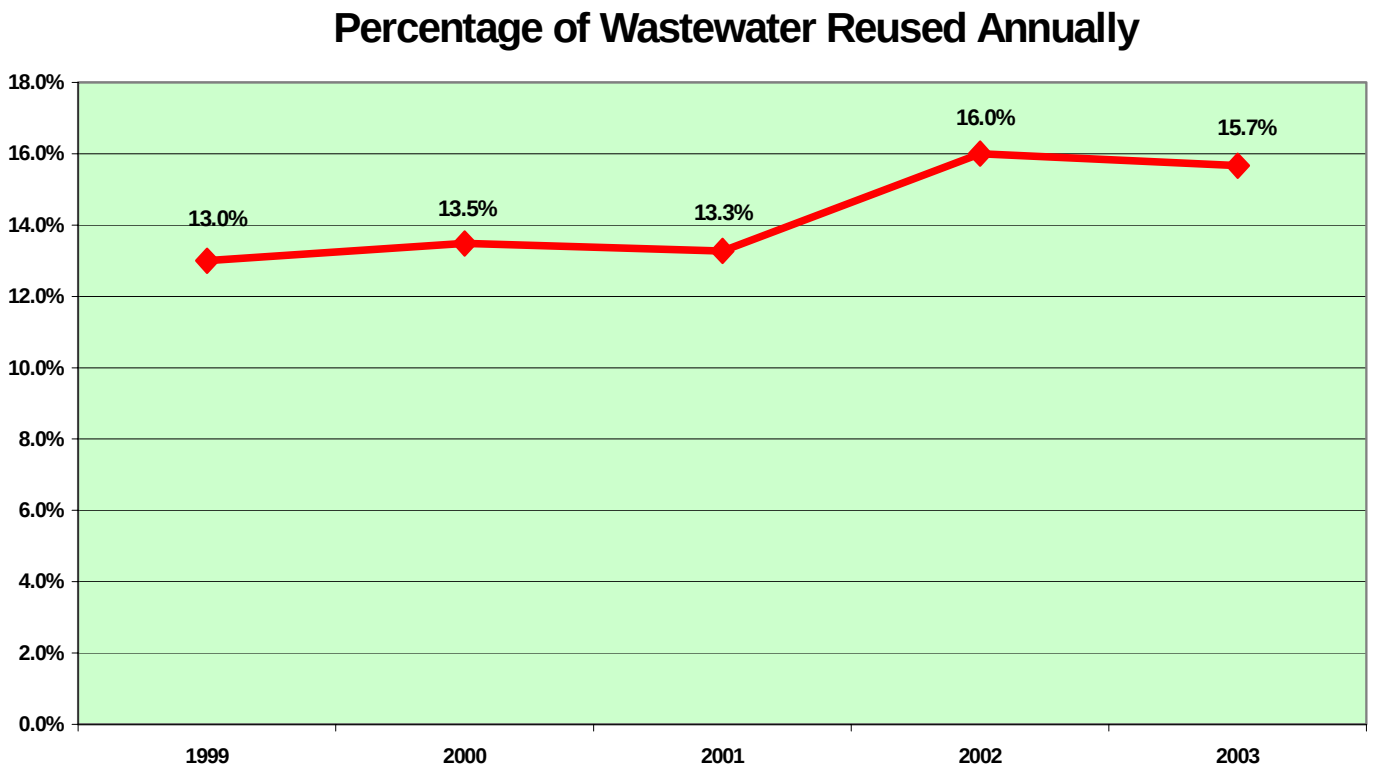
Implications: DOH has plans to encourage reuse to about 25 mgd by 2005 and 30 mgd by 2015, or about 20%.

Data Quality: Medium (± 10-25%) confidence.

Source: Tomas See (WWB).

Data are not required by the EPA.

FFY	Total Wastewater Treated (MGD)	Wastewater Reused (MGD)	Percent Reused
1999	150.0	19.5	13.0%
2000	150.0	20.2	13.5%
2001	150.0	19.9	13.3%
2002	150.0	24.0	16.0%
2003	150.0	23.5	15.7%



Wastewater Treatment Plant Operations and Maintenance Compliance Records

Explanation: About three-fourths of Hawai'i's wastewater treatment plants show full compliance when inspected by the Wastewater Branch staff. Major operation and maintenance (O&M) deficiencies, effluent violations or permit violations warrant an unsatisfactory rating.

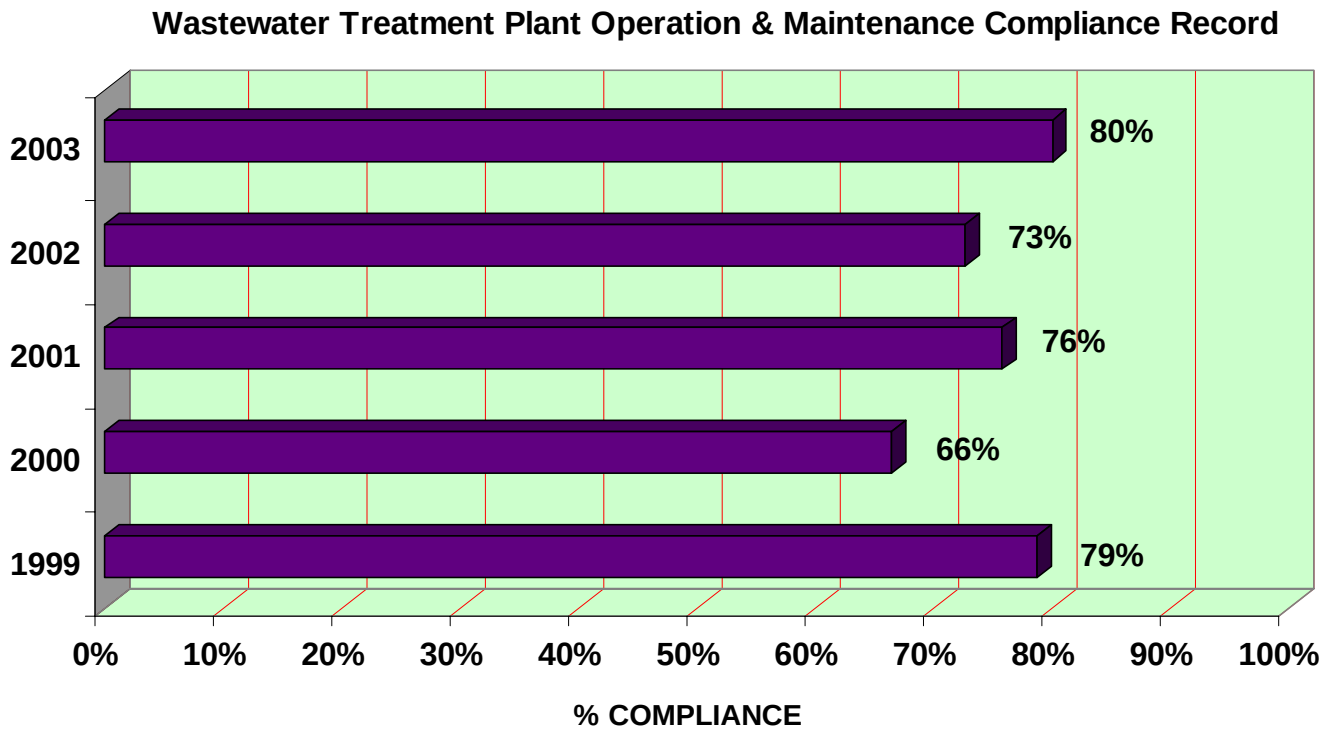
Implications: The stated goal of the WWB of 95% compliance by the year 2000 has not been achieved because of O&M deficiencies or effluent violations. The WWB staff believe operation and maintenance compliance leads to fewer sewage spills because well-maintained equipment breaks down less often. Another cause of the unsatisfactory ratings is the number of underground injection permits (which are covered by the O&M inspection) that have expired (see page 15 for a discussion of the underground injection permit program).

Data Quality: High (± 5-10% confidence).

Source: Marshall Lum (WWB).

Data are not required by the EPA

FFY	Number of Plants Inspected	Number of Plants Rated Unsatisfactory	Percent in Compliance
1999	164	35	79%
2000	113	38	66%
2001	144	35	76%
2002	106	29	73%
2003	100	20	80%



Number of Impaired Streams Listed, 2004

Explanation: This stream quality indicator is based on the "2004 List of Impaired Waters in Hawai`i Prepared Under Clean Water Act §303(d)." The List identifies waters where our analysis of readily available data indicated non-attainment of State water quality standards, based on the decision making criteria explained in the listing document (please see http://www.hawaii.gov/health/environmental/env-planning/wqm/). The 2004 List includes 11 new streams that were not listed in 2002. The next List will be published in spring of 2006.

Total Maximum Daily Loads (TMDLs) of pollutants must eventually be developed for all waterbodies on the List of Impaired Waters. Currently, TMDLs have been established for three Oahu waterbodies (the Ala Wai Canal, Waimanalo Stream, and Kawa Stream), and are near completion for streams draining into Nawiliwili Bay (Kaua'i) and Pearl Harbor (O'ahu), as well as for Kane'ohe and Kapa'a Streams (O'ahu). New TMDL development projects are underway for streams in Hanalei (Kaua'i), Ka'elepulu (O'ahu), and Kaukonahua (O'ahu), and for Waiakea and Alenaio Streams (Hawai'i).

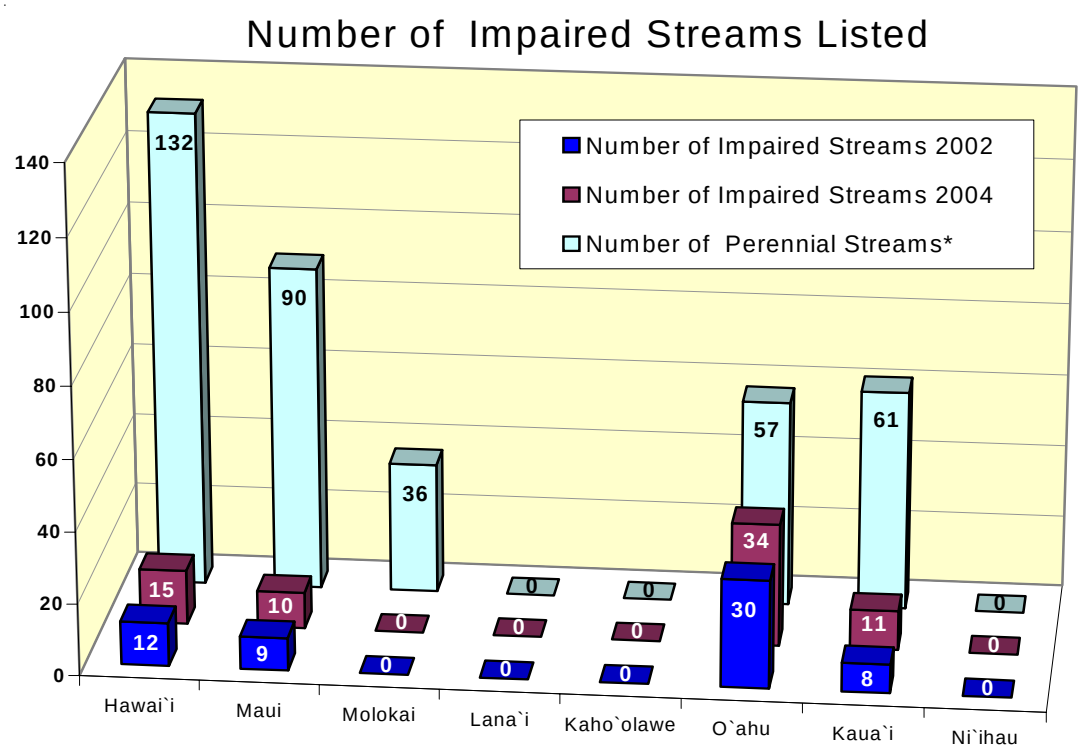
Implications: This stream quality indicator refers only to the inland part of a watershed with freshwater flows that have salinity lower than 0.5 parts per thousand (ppt), including all stream tributaries. The identification of these streams initiates a process that identifies pollutant sources so that agencies, non-profits, businesses, and community groups can begin to control these sources of pollution, improve water quality, and protect and enhance aquatic ecosystem health.

Data Quality:
Medium/High (70-80%) confidence.

Source: Linda Koch (EPO)

Data are required by EPA.

Island	Number of Impaired Streams 2002	Number of Impaired Streams 2004	Number of Perennial Streams*
Hawai`i	12	15	132
Maui	9	10	90
Molokai	0	0	36
Lana`i	0	0	0
Kaho`olawe	0	0	0
O`ahu	30	34	57
Kaua`i	8	11	61
Ni`ihau	0	0	0
TOTAL	**59**	**70**	**376**



*As identified in the 1990 Hawaii Stream Assessment
(Commission on Water Resource Management and National Park Service)

Toxics Release Inventory
2002 Hawai‘i Report

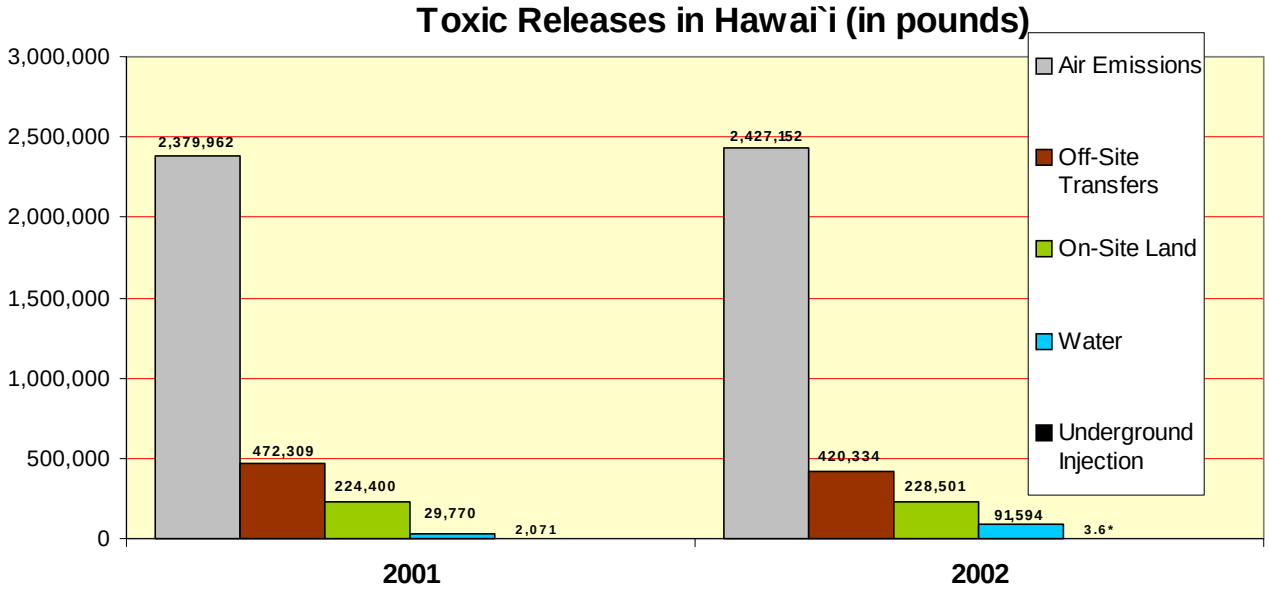
In June 2004, EPA’s Toxics Release Inventory (TRI) program released the 2002 data on toxics that were released into the nation’s air, water and land from major industry sectors throughout the United States.

The Hawai`i 2001 TRI report reflected some major changes in reporting, and for this reason, data from years prior to 2001 are not included. Some of the significant changes were the inclusion of “new industries” to the “original industries” category for air releases, as well as the use of different methods for calculating air emissions. The 2001 report also included first-time reporting from four federal facilities.

In Hawai`i, 39 facilities reported a total of 3.2 million pounds of toxic chemical releases*. Hawai`i’s total releases increased approximately 2% when compared to 2001 data. There was an increase of nearly 62 thousand pounds in reported releases to water due primarily to an increase in reported releases from the U.S. Navy Pearl Harbor Naval Complex. Greater reported releases to air were primarily due to increases at electric generating facilities. Reported releases to land increased primarily at federal facilities. Transfers off-site for disposal and other waste management decreased by nearly 11%. The largest decrease resulted from electric generating facilities.

For more detailed information, refer to the EPA website at: www.epa.gov/region09/toxic/tri or www.epa.gov/tri/tridata/tri02/state/Hawaii.pdf

**Release is defined as the amount of a toxic chemical released on-site (to air, water, underground injection, landfills and other land disposal), and the amount transferred off-site for disposal. It is important to note that release should not be directly equated with risk. To evaluate risk, release data must be combined with information about chemical toxicity, site-specific conditions, and exposure.*



* One facility was not recorded in the TRI database, thus reflecting an unusually low number. The corrected data should be available by 2/05 on the EPA website.

Data are not required of DOH by EPA, but EPA does require data from private industries.

Annual Enforcement Report Summary

Explanation: DOH publishes a quarterly inspection and enforcement report similar to the annual data table (below). The quarterly reports summarize the number of inspections, actions taken, and fines assessed as well as concluded formal cases. It also lists the number of supplemental environmental projects (S.E.P.s), which are projects done in lieu of a monetary fine. These reports, including a narrative report as well as the data table, are published in the OEQC Bulletin.

Implications: The table below shows a tally of the inspections and responses conducted by DOH pollution control programs during the State fiscal year of July 2003 through June 2004. A priority of the Environmental Health Administration is to pursue violations with vigorous enforcement.

Data Quality: Medium (± 10-25%) confidence.
Source: Environmental Planning Office (EPO)
Data are not required by the EPA.

Enforcement Report for July 2003 - June 2004

	Inspections & Responses	Warning Notices[1]	Formal Enforcement Cases[2]	Penalties Issued	Formal Cases Concluded	Supplemental Environmental Projects (S.E.P.) in Progress
Clean Air Branch						
Fugitive Dust	544	43	7	$14,660	7	0
Noncovered Sources	96	31	9	$97,175	7	0
Covered Sources	182	28	16	$3,677,200	11	0
Agricultural Burning	261	1	0	$0	0	0
Open Burning	114	12	1	$2,750	0	0
Others	300	3	0	$0	0	0
Solid & Hazardous Waste Branch						
Underground Storage Tanks	651	28	108	$61,980	1	0
Hazardous Waste	529	162	3	$40,000	9	6
Solid Waste	389	69	3	$307,330	1	2
Clean Water Branch						
Permitted Discharges (NPDES)	109	8	0	$0	2	1
Non-permitted Discharges	262	35	1	$0	0	0
Water Quality Certifications	19	0	0	$0	0	0
Wastewater Branch						
Wastewater Treatment Plants	124	5	1	$2,700	2	3
Individual Wastewater Systems	767	91	12	$210,649	6	0
Animal Waste	21	2	0	$0	0	0
Other	84	9	0	$0	0	0
Safe Drinking Water Branch						
Public Water Systems	502	11	0	$0	1	0
Wells - Underground Injection Control	506	29	1	$19,900	1	0
Hazard Evaluation & Emergency Response						
Oil Spills	6	6	0	$0	0	0
Hazardous Waste Releases	31	2	0	$0	0	0
TOTAL	5,497	575	162	$4,434,344	48	12

[1] Informal letters warning a person or entity that they are violating environmental laws normally requiring corrective action by a specified deadline. Informal actions generally cover less serious issues such as small infractions by individuals, or violations of permit technicalities which do not directly impact environmental quality.

[2] Formal enforcement cases generally cover any serious violation and repeat or continued violations of permits or the law. Warning letters, if not adequately responded to, can lead to formal actions. Specifically, formal cases are administrative enforcement proceedings that typically include a formal notice of violation and an order. Orders often require corrective action, reports, and payment of a penalty. This section also includes field citations.

For More Information:

State of Hawai`i, Department of Health
Environmental Health Administration

www.hawaii.gov/health/environmental

Deputy Director for Environmental Health	586-4424
Environmental Health Administration Offices:	
Compliance Assistance	586-4528
Environmental Planning	586-4337
Environmental Resources	586-4575
Hazard Evaluation & Emergency Response	586-4249
Environmental Management Division	586-4304
Clean Air Branch	586-4200
Clean Water Branch	586-4309
Safe Drinking Water Branch	586-4258
Solid & Hazardous Waste Branch	586-4226
Wastewater Branch	586-4294
Environmental Health Services Division	586-1522
Food & Drug Branch	586-4725
Noise, Radiation & Indoor Air Quality Branch	586-4701
Sanitation Branch	586-8000
Vector Control Branch	483-2535
State Laboratories Division	453-6652